

Title (en)  
COMMUTATION CELL AND COMPENSATION CIRCUIT THEREFOR

Title (de)  
KOMMUTIERUNGSZELLE UND KOMPENSATIONSSCHALTUNG DAFÜR

Title (fr)  
CELLULE DE COMMUTATION ET CIRCUIT DE COMPENSATION ASSOCIÉ

Publication  
**EP 2982038 A4 20161123 (EN)**

Application  
**EP 14779957 A 20140404**

Priority

- US 201361808254 P 20130404
- US 201361904038 P 20131114
- CA 2014000325 W 20140404

Abstract (en)  
[origin: WO2014161080A1] The present disclosure relates to a commutation cell and to a compensation circuit for limiting overvoltage across the power electronic switch of the commutation cell and for limiting a recovery current in a freewheel diode of the commutation cell. The power electronic switch has a parasitic emitter inductance. A variable gain compensation circuit generates a feedback from a voltage generated across the parasitic inductance of the emitter of the power switch at turn-on or turn-off of the power electronic switch. The compensation circuit provides the feedback to a control of the power electronic switch to reduce the voltage generated on the parasitic emitter inductance. A power converter including the commutation cell with the compensation circuit is also disclosed.

IPC 8 full level  
**H03K 17/08** (2006.01); **H02M 1/32** (2007.01); **H03K 17/082** (2006.01); **H03K 17/16** (2006.01); **H03K 17/567** (2006.01)

CPC (source: EP US)  
**H02M 1/32** (2013.01 - US); **H02P 6/14** (2013.01 - US); **H03K 17/08** (2013.01 - US); **H03K 17/082** (2013.01 - EP US);  
**H01L 2224/48091** (2013.01 - EP US); **H01L 2224/49111** (2013.01 - EP US); **H01L 2224/49175** (2013.01 - EP US);  
**H01L 2924/13055** (2013.01 - EP US); **H01L 2924/13091** (2013.01 - EP US); **H03K 17/166** (2013.01 - EP US); **H03K 17/168** (2013.01 - EP US);  
**H03K 17/567** (2013.01 - EP US)

Citation (search report)

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- [A] JP 2008235997 A 20081002 - MITSUBISHI ELECTRIC CORP
- [A] EP 0980141 A1 20000216 - ABB INDUSTRY OY [FI]
- [XYI] JEAN-MARC CYR ET AL: "Limiting the overshoot on IGBT during turn-off using stray inductance", INTERNATIONAL CONFERENCE AND EXHIBITION AUTOMOTIVE POWER ELECTRONICS, vol. 812, 7 April 2011 (2011-04-07), La Ferme du Manet, Montigny Le Bretonneux France, XP055260947
- [XA] ERIC AZEROUAL ET AL: "Limiting the Overshoot on IGBT During Turn-Off Using Stray Inductance", ATZ ELEKTRONIK, vol. 7, 1 May 2012 (2012-05-01), pages 16 - 20, XP055224868
- See references of WO 2014161080A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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**WO 2014161080 A1 20141009**; CA 2907472 A1 20141009; CA 2907472 C 20170502; CN 105308864 A 20160203; CN 105308864 B 20201016;  
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JP 6611191 B2 20191127; KR 20150140304 A 20151215; US 10587257 B2 20200310; US 2016043711 A1 20160211

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**CA 2014000325 W 20140404**; CA 2907472 A 20140404; CN 201480024860 A 20140404; EP 14779957 A 20140404; ES 14779957 T 20140404;  
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